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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/010,615  | 11/08/2001  | Somnath Mukherjee    | 249240US28          | 6611             |
| 22850   | 7590        | 08/23/2005           |                     | EXAMINER         |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.<br>1940 DUKE STREET<br>ALEXANDRIA, VA 22314 |             |                      |                     | WELLS, KENNETH B |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2816                |                  |

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |  |
|------------------------------|------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b>  |
|                              | 10/010,615             | MUKHERJEE ET AL.<br> |
|                              | <b>Examiner</b>        | <b>Art Unit</b>  |
|                              | Kenneth B. Wells       | 2816   |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 05 July 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-17 is/are pending in the application.  
 4a) Of the above claim(s) 3,4,6-10,12,16 and 17 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,5,11,13 and 14 is/are rejected.  
 7) Claim(s) 2 and 15 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 17 March 2004 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

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1. Applicant's election of the Figs. 5A-5D species is acknowledged. The indication that all claims 1-19 read on this embodiment is not correct, however, and thus the following claims are withdrawn from consideration by the examiner: claims 3, 4, 6-10, 12, 16 and 17.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Nazarathy et al.

As to claims 1 and 11, note Fig. 19, where the recited signal input terminal is where RFIN is received; the recited output terminal is the connection between the linearizer circuitry and the amplification/equalization block; the recited first through third impedances are R1, R3 and R2, respectively; the recited first and second diodes are the two diodes with their cathodes tied together; and the recited third and fourth diodes are the two diodes with their anodes tied together. Note that the anode of the second diode and the cathode of the fourth

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diodes are grounded (i.e., through additional, intervening diodes).

As to claims 5 and 13, the recited response characteristics are deemed to be inherent in the Nazarathy et al Fig. 19 linearizer circuitry.

3. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Atlas et al.

As to claim 1, note Fig. 11, where the recited signal input terminal is where signal  $2Vi$  is applied; the recited output terminal is the node between resistors 1120 and 1130; the recited first through third impedances are  $Rs$ , 1120 and 1110, respectively; and the recited first and second diodes are the two diodes within circuit 700 having their cathodes tied together. Note that the anode of the second diode is grounded (i.e., through additional, intervening diode).

As to claim 5, the recited response characteristics are deemed to be inherent in the Atlas et al Fig. 11 circuit 700.

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nazarathy et al.

The recited determining and processing steps of claim 14, though not disclosed by Nazarathy et al, would have been obvious to those having ordinary skill in the art who will easily be able to determine the nonlinear term of the current component of signal RFIN, as well as the necessary parameters for the diodes necessary to cancel the nonlinear term generated by the Fig. 19 linearizer circuitry of Nazarathy et al during operation of this circuitry. Thus, claim 14 does not distinguish patentably over Nazarathy et al.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Atlas et al.

The recited determining and processing steps of claim 14, though not disclosed by Atlas et al, would have been

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obvious to those having ordinary skill in the art who will easily be able to determine the nonlinear term of the current component of signal  $2Vi$ , as well as the necessary parameters for the diodes necessary to cancel the nonlinear term generated by the Fig. 11 linearizer circuitry of Atlas et al during operation of this circuitry. Thus, claim 14 does not distinguish patentably over Atlas et al.

6. Claims 2 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Note pre-distortion circuit 202 in Fig. 3 of Fredericksen, Jr et al (this reference has not been applied against the instant claims because its filing and publication dates are later than applicant's effective filing date.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to

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Kenneth B. Wells whose telephone number is (571)272-1757. The examiner can normally be reached on Monday through Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan, can be reached at (571)272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Kenneth Wells*  
Kenneth B. Wells  
Primary Examiner  
Art Unit 2816

August 22, 2005